

School:			School of Engineering and School of Business Management				<< Selection of BEng major														<< Declaration of BEng major														<< Selection of BBA major														Student's Pathway														Remarks
Program:			Dual Degree Program (BEng in Chemical Engineering and BBA in Management)																																																												
Course Offering Dept. (course code prefix)	Course Code	Course Title / Courses List	Credits	Year 1 Fall	Year 1 Spring	Year 2 Fall	Year 2 Spring	Year 3 Fall	Year 3 Spring	Year 4 Fall	Year 4 Spring	Year 5 Fall	Year 5 Spring	Year 6 Fall	Year 6 Spring	Year 7 Fall	Year 7 Spring	Year 8 Fall	Year 8 Spring																																												
BEng in Chemical Engineering																																																															
Engineering Fundamental Courses																																																															
COMP	1022P	Note: COMP 1022P OR COMP 1023 OR COMP 2011 OR COMP 2012H	3-5																																																												
COMP	1023	Introduction to Computing with Java	3		3																																																										
COMP	2011	Introduction to Python Programming	3																																																												
COMP	2012H	Programing with C++	4																																																												
CHEM	1012	Honors Object-Oriented Programming and Data Structures	5																																																												
CHEM	1012	General Chemistry B: Atomic Structure, Molecules, and Bonding Theories	3	3																																																											
MATH	1013	Note: MATH 1013 OR MATH 1020 OR MATH 1023	3-4																																																												
MATH	1020	Calculus I	4	3																																																											
MATH	1023	Accelerated Calculus	3																																																												
MATH	1023	Honors Calculus I	4																																																												
PHYS	1112	Note: PHYS 1112 OR PHYS 1312	3																																																												
PHYS	1312	General Physics I with Calculus	3		3																																																										
PHYS	1312	Honors General Physics I	3																																																												
Required Credits for Engineering Fundamental Courses			13-19	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12																																											
Major Required Courses and Electives																																																															
CENG	1000	Foundations of Chemical and Biological Engineering	3	3																3																																											
CENG	1010	Academic and Professional Development I	0	0																0																																											
CENG	1110	Introduction to Chemical Engineering	3		3															3																																											
CENG	1500	A First Course on Materials Science and Applications	3			3														3																																											
CENG	2210	Chemical and Biological Engineering Thermodynamics	3				3													3																																											
CENG	2220	Transport Phenomena I	3					3												3																																											
CENG	2310	Modeling for Chemical and Biological Engineering	3			3														3																																											
CENG	2320	Modeling for Chemical and Biological Engineering II	3				3													3																																											
CENG	3110	Process Dynamics and Control	3						3											3																																											
CENG	3150	Integrated Chemical Process & Product Design	5						5											5																																											
CENG	3210	Separation Processes	3					3												3																																											
CENG	3220	Transport Phenomena II	3					3		3										3																																											
CENG	3230	Chemical and Biological Reaction Engineering	3						3											3																																											
CENG	3300	Data Science for Molecular Engineering	3						3											3																																											
CENG	3550	Chemical and Environment Engineering Laboratory	4							4										4																																											
CENG	4020	Academic and Professional Development II	0							0										0																																											
CENG	4920	Note: CENG 4920 OR CENG 4930 OR CENG 4940 (Students taking the Research Option must take CENG 4930)	6																																																												
CENG	4930	Chemical Engineering Capstone Design	6										3		3					6																																											
CENG	4930	Chemical Engineering Thesis Research	6																																																												
CENG	4940	Chemical Engineering Industrial Project	6																																																												
CENG	4940	Note: BEN2410 OR BEN2010 OR LFS1901	3																																																												
BEN	2410	Cellular and Systems Physiology for Engineers	3		3															3																																											
BEN	2610	Chemical Biology for Engineers	3																																																												
LFS	1901	General Biology I	3																																																												
CHEM	1052	Laboratory for General Chemistry B	1		1															1																																											
CHEM	2111	Fundamentals of Organic Chemistry	3			3														3																																											
CHEM	2155	Fundamental Organic Chemistry Laboratory	1		1															1																																											
CENG/BEN/COMP/ENEG/CHEM		CENG Elective (Courses from the specified list)	12							3	3	3	3	3	3	12																																															
BEng in Chemical Engineering Major Requirements			71	3	4	13	6	12	15	3	3	3	6	6	71																																																
BBA in Management																																																															
School Requirements																																																															
ACCT	2010	Principles of Accounting I	3		3															3																																											
ACCT	2200	Principles of Accounting II	3						3											3																																											
ECON	2103	Note: ECON 2103 OR ECON 2113	3			3														3																																											
ECON	2113	Principles of Microeconomics	3																																																												
ECON	3123	Microeconomics	3																																																												
ECON	3123	Note: ECON 2123 OR ECON 3123	3																																																												
ECON	3123	Macroeconomics	3																																																												
ECON	3123	Macroeconomics Theory I	3																																																												
FINA	2203	Financial Management	3				3													3																																											
ISOM	2010	Introduction to Information Systems	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0																																											
ISOM	2020	Coding for Business	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0																																											
ISOM	2500	Business Statistics	3	3																3																																											
ISOM	2600	Introduction to Business Analytics	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1																																											
ISOM	2700	Operations Management	3																	3																																											
ISOM	2720	Marketing Management	3																	3																																											
MGMT	2110	Business Ethics and the Individual	2																	2																																											
MGMT	2110	Organizational Behavior	3																	3																																											
MGMT	2130	Business Ethics and Social Responsibility	2																	2																																											
MATH	1003	Note: MATH 1003 OR MATH 1013 OR MATH 1020 OR MATH 1023	3-4																																																												
MATH	1013	Calculus and Linear Algebra	3																																																												
MATH	1013	Calculus I	3		(3)															0																																											
MATH	1020	Accelerated Calculus	4																																																												
MATH	1023	Honors Calculus I	3																																																												
Required Credits for School Requirements			30-40	3	3	3	3	6	1	3	3	3	3	5	2	32																																															
Major Required Courses and Electives																																																															
MGMT	3110	Note: MGMT 3110 OR MGMT 3120 (For students in the Consulting Option, they will use MGMT 3110 to fulfill the Option Requirements and should take MGMT 3120 to fulfill this requirement.)	4																																																												
MGMT	3120	Human Resources Management	4																	4																																											
MGMT	3130	Managerial Leadership	4																																																												
MGMT	3140	Note: MGMT 3130 OR MGMT 3140 (Students in the Consulting Option must take MGMT 3140 to fulfill this requirement.)	4																	4																																											
MGMT	3140	Judgment and Decision Making in Organizations	4																																																												
MGMT	3140	Negotiation	4																																																												
MGMT	4210	Note: MGMT 4210 OR MGMT 4220 (Students in the Consulting Option or in the Corporate Social Responsibility and Sustainability Option must take MGMT 4210 to fulfill this requirement.)	3-4																																																												
MGMT	4220	Corporate Strategy	3																	3																																											
MGMT	4220	Entrepreneurship and Innovation	4																																																												
MGMT		MGMT 3000-level or above Electives (Any 3 courses of the subject and level as specified. Courses taken as Option Required Courses may not be counted towards the elective requirement.)	9																																																												
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